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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,046	07/13/2001	Frank Leymann	DE920000015US1	6970

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EXAMINER
BARQADLE, YASIN M

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/682,046	LEYMANN ET AL.
	Examiner	Art Unit
	Yasin M Barqadle	2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 October 2003*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4)☐ Interview Summary (PTO-413) Paper No(s). _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

Response to Arguments

1.   The Response filed on October 03, 2003 has been entered and

made of record.

2.   The amendment filed on October 03, 2003 has been fully

considered but are moot in view of the new ground(s) of

rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms

the basis for all obviousness rejections set forth in this Office

action:

> (a) A patent may not be obtained though the invention is not identically
> disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the
> art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kirch US (6324161) in view of Connelly et al US

(6594786).

3.   Claims 1-18 are rejected under 35 U.S.C. 102(e) as being

anticipated by Kirch US (6324161).

As per claim 1, Kirch teaches a computerized method for

indicating availability of one or a multitude of

application-servers (Fig. 3a);

said method comprising a first step of inserting into a

availability-database (internal timing table stores heartbeat

signals from operational nodes) a first-data-element comprising a

notification-period (heartbeat information message timeout

period), said notification-period defining an upper time limit

(supply period) for a repetition period of an availability-signal

being repeated as long as said application-server is available

[heartbeat packets (message information) provide repeated

periodic indication of node and communication path availability

Col. 8, lines 25-67 to Col. 9, lines 1-58]; and

said method comprising a second step of inserting into said

availability database a second-data-element comprising for each

availability-signal its corresponding time stamp as

availability-time [Col. 18, lines 34-67]; and

whereby, the difference of the current-time and a recent

availability-time compared to said notification-period is

representing a measure of availability of said application-server

[Col. 19, lines 65-67 to Col. 20, lines 1-59].

Although Kirch shows substantial features of the claimed

invention including an internal timing table for each node that

records history of each heartbeat packet broadcast on the

network, he does not explicitly show a central

availability-database. Nonetheless, this feature is well known in
the art and would have been an obvious modification of the system
disclosed by Kirch, as evidenced by Connelly et al USPN.
(6594786).

In analogous art, Connelly et al, whose invention is about a
fault tolerant high availability system, disclose central
repository storage where events effecting computer system
availability are stored. [Col. 3, lines 39-53]. Giving the
teaching of Connelly et al, a person of ordinary skill in the
art would have readily recognized the desirability and the
advantage of modifying Kirch by employing the system of Connelly
et al so that critical information identifying downtime events
that compromise effectiveness can be discovered, fault tolerant
system solutions can be designed to prevent common causes of
downtime, and realistic availability goals can be created and
monitored [Col. 3, lines 13-20].

As per claim 2, Kirch teaches a computerized method for
indicating availability according to claim 1, said method
comprising a third step of updating said notification-period
depending on the amount of workload of said application-server
either by increasing said notification-period, if said amount of
the workload increases, or by decreasing said
notification-period, if said amount of the workload decreases
[Col. 8, lines 25-56; Col. 10, lines 54-67 and Col. 11, lines 1-
34].

As per claim 3, Kirch as modified teaches a computerized method
for indicating availability according to claim 1, wherein within
said first and said second step also an application-server
identification is inserted into said central
availability-database and associated with said first and said
second-data-element [Col. 8, lines 25-56].

As per claim 4, Kirch teaches a computerized method for
indicating availability according to claim 3, wherein said
measure of availability indicates unavailability of said
application server, if said difference exceeds said
notification-period [Col. 19, lines 65-67 to Col. 20, lines 1-
59].

As per claim 5, Kirch as modified teaches a computerized method
for indicating availability according to claim 1, wherein said
central availability-database is shared by a multitude of
application servers each comprising a hot-pool of said one or
multitude of application servers, and wherein for said hot-pool a
watchdog is monitoring said hot-pool's availability status, and
wherein said method is being executed by said watchdog, and
wherein said availability-signal is being repeated as long as at
least one of said application-servers of said hot-pool is
available, and wherein within said first and said second step
also a hot-pool-identification is inserted into said central

availability-database and is associated with said first- and said second-data-element [Col. 8, lines 25-67 and Col.9, lines 1-63].

As per claim 6, Kirch teaches a computerized method for indicating availability according to claim 2, whereby as a second difference the difference of said recent availability-time and a previous availability-time is included in said measure of availability [Col. 19, lines 65-67 to Col. 20, lines 1-59; Col. 23, lines 39-67 to Col. 240-50].

As per claim 7, Kirch teaches a computerized method for indicating availability according to claim 5, whereby as a second difference the difference of said recent availability-time and a previous availability-time is included in said measure of availability [Col. 19, lines 65-67 to Col. 20, lines 1-59].

As per claim 8, Kirch teaches a computerized method for determining availability of one or multitude of application-servers for accepting application-service-request, said method comprising a first step of querying a availability-database for a first-data-element comprising a notification-period (internal timing table stores heartbeat signals from operational nodes), said notification period defining an upper time limit (supply period), for a repetition-period of an availability signal being repeated as

long as said application-server is available [Col. 8, lines 25-67
to Col. 9, lines 1-58], and

for a second-data-element comprising for a recent
availability-signal its time stamp as recent availability-time,
and said method comprising a second step of determining a measure
of availability of said application-server by comparing the
difference of the current-time and said recent availability-time
to said notification-period, said method comprising a third step
of issuing an application-service-request to said
application-server only, if said measure of availability
indicates availability of said indication-server [Col. 11, line
28 to col. 12, line 19; Col. 19, lines 65-67 to Col. 20, lines 1-
59].

As for the issue of central availability-database see the
rejection made on claim 1 above.

As per claim 9, Kirch teaches a computerized method for
determining availability according to claim 8, wherein said
measure of availability of the second step indicates
unavailability of said application-server, if said difference
exceeds said notification-period [Col. 19, lines 65-67 to Col.
20, lines 1-59].

As per claim 10, Kirch teaches a computerized method for
determining availability according to claim 8, wherein said
method is querying in said first step also for a

third-data-element comprising a previous availability-time for a previous availability-signal [Col. 19, lines 7-67 to Col. 20, lines 1-59], and

wherein in said second step also as a second difference the difference of said recent availability-time and said previous availability-time is included in said measure of availability [Col. 19, lines 7-67 to Col. 20, lines 1-59].

As per claim 11, Kirch teaches a computerized method for determining availability according to claim 8, wherein said measure of availability indicates unavailability of said application-server, if said difference exceeds said notification-period by a factor of N [Col. 19, lines 65-67 to Col. 20, lines 1-59].

As per claim 12, Kirch teaches a computerized method for determining availability according to claim 10, wherein said method is being executed for a multitude of application-servers, and wherein in said third step a subset of application-servers, comprising application-servers for which said measure of availability indicates availability, is determined, and for each application-server within said subset its corresponding measure of availability is interpreted as a workload indication, and said application-service-request is being issued to an application-server with the lowest workload [Col. 8, lines 25-56; Col. 10, lines 54-67 and Col. 11, lines 1-34].

As per claims 13,14 and 15, these are a system, data processing program and a computer product claims with similar limitations as the method claim 1 above, therefore, they are rejected with the same rationale.

As per claims 16, 17 and 18, these are system, data processing program and a computer product claims with similar limitations as the method claim 8 above, therefore, they are rejected with the same rationale.

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**   See MPEP §706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

date of the advisory action. In no event, however, will the
statutory period for reply expire later than SIX MONTHS from the
date of this final action.

5.   Any inquiry concerning this communication or earlier
communications from the examiner should be directed to Yasin
Barqadle whose telephone number is 703-305-5971. The examiner
can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are
unsuccessful, the examiner's supervisor, Glenn Burgess can be
reached on 703-305-9717. The fax phone numbers for the
organization where this application or proceeding is assigned are
703-872-9306 for regular communications and 703-746-7238 for
After Final communications.

Any inquiry of a general nature or relating to the status of
this application or proceeding should be directed to the
receptionist whose telephone number is 703-305-3900.

Yasin Barqadle

GLENTON B. BURGESS
SUPERVISORY PATENT EXAMINER
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